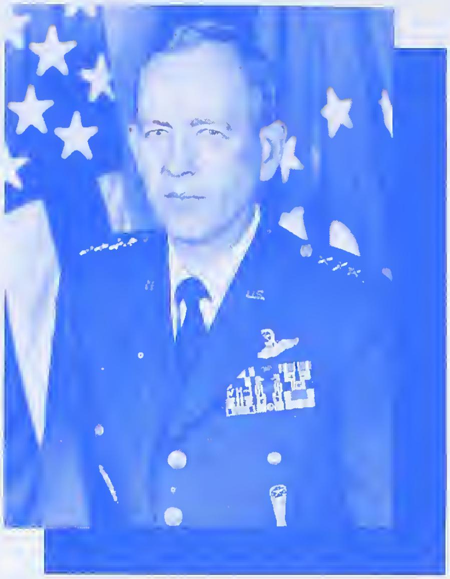
D 301.81:
36/3

Combat Crew

Strategic Air Command

MARCH 1986 SPECIAL SAC 40th ANNIVERSARY ISSUE

★ ★ ★ ★



FORTY & FORWARD

Historians have written volumes about World War II and its profound effect on the world we live in. From a military standpoint, two developments emerging from that conflict ushered in a new era in the profession of arms. The first was strategic airpower as a key instrument of military power. Allied bombing campaigns had played a major role in defeating the Axis powers, thus confirming the predictions of visionaries such as Mitchell and Douhet that strategic airpower would be a decisive factor in warfare. The second was the advent of nuclear weapons. The tremendous power of the two nuclear weapons that brought the war to a close dictated that in the future the primary objective of U.S. military forces would be to prevent war.

Those two developments led, in 1946, to the creation of Strategic Air Command. Born one year before the Air Force itself, the Command was built around a fleet of B-29 bombers manned and supported by some 37,000 people. In the forty years since, the B-29s have given way to a series of newer, increasingly capable weapon systems and the Command has grown to a force of almost 120,000 men and women. At the same time, the evolving threat posed by Soviet strategic forces has demanded changes in our strategy to meet that threat.

But throughout that forty year evolution, two things have remained constant. One is the basic Strategic Air Command mission — to deter war by convincing any potential adversary that the costs and risks of aggression would far outweigh any gain. The other is the most important ingredient in carrying out that mission — high quality people in the force. Since the Command's inception, the skill and dedication of SAC men and women have provided the heart and soul of deterrence. Nowhere has that daily standard of excellence and commitment been more evident than in the SAC combat crew force.

Through four decades, the constant vigil kept by SAC combat crew members has successfully deterred nuclear war and prevented major conventional conflict on the world stage. That is an achievement that should be a source of pride for all combat crew members.

For those in the crew force today, you carry that proud heritage with you every time you enter the alert facility or launch control center. As the challenges to national security continue, America depends on your dedication and professional competence to maintain effective deterrence in the years ahead. I have total confidence that you will meet that demand and that future Americans will inherit the same peace and freedom we enjoy today.★★★★

Larry D Welch

GENERAL LARRY D. WELCH
Commander in Chief
Strategic Air Command

Combat Crew

SACRP 127-1 VOL. XXXVI NO. 3 MARCH 1986

COMBAT CREW is an internal publication of the Strategic Air Command with the primary purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps printed herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictitious. Written permission must be obtained from Headquarters, Strategic Air Command before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF. Distribution FX, controlled by IGFE SAC units submit distribution requests through local PDO. Reader to copy ratio 10:1. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Contributions are encouraged as well as comments and criticism. Direct correspondence with the Editor is authorized. Address correspondence to Editor, Combat Crew, HQ SAC/IGFE Offutt AFB, NE 68113-5001 AV 271-2620/6221.

ON OUR COVER

"FORTY & FORWARD ..." As SAC celebrates its 40th anniversary, Combat Crew salutes both the men and women who have operated SAC's weapon systems in the past and those serving proudly now.

GEN LARRY D. WELCH
COMMANDER IN CHIEF, SAC

BRIG GEN GEORGE LEE BUTLER
INSPECTOR GENERAL

COL CHARLES J. WINGERT
DIRECTOR OF SAFETY

EDITOR
MAJ BOB NEIDRICK

ASSOCIATE EDITOR
KEN MAASSEN

ART EDITOR
W. A. KIRKPATRICK

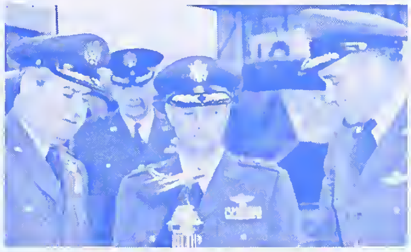
EDITORIAL ASSISTANT
M. J. ABBOUD

FEATURES

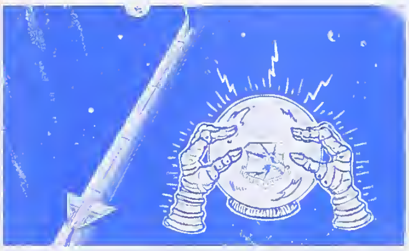
Forty Years of Deterrence 4

UNIV. OF FLA. LIB ★ DOCUMENTS DEPT ★ U.S. DEPOSITORY ★
MAR 25 1986

Our Peace Insurance Policy 10



SAC's Flying Safety Program 18



The Future of SAC 24

1946 1986

Forty Years Of Deterrence

Strategic Air Command observes its 40th anniversary this month — the historic date, March 21. On that day four decades ago, SAC was established as a separate command of the United States Air Force, and the men of the new organization set out to build a strategic air arm second to none.

THE HERITAGE

Although the theory of strategic bombing goes back to the days of WWI and General Billy Mitchell, 1935 is referred to as one of the most important milestones in strategic air power. That year saw the production of the four engine B-17, Flying Fortress, a long range bomber that demonstrated for the first time the potential possibilities of strategic air power. Actually, the B-17 was to have the opportunity to prove itself much sooner than expected. Within five short years, the Japanese struck at Pearl Harbor and the United States found itself engaged in a world-wide struggle for survival. All too soon the need for a vastly larger fleet of long range bombers was obvious, and a hard pressed nation set out to build that force as quickly as possible.

The air fleet was built and before the leaders of the Free World met at the historic Casablanca Conference of January 1943, the belief of American air leaders in the doctrine of strategic bombing had been justified. In Europe, the Germans had already felt the devastating effect of large scale, daylight bomber attacks made by the Eighth Air Force in England and the Fifteenth Air Force in the Mediterranean Theater. The stated objectives of these attacks — "The destruction and dislocation of the German military, industrial and economic system and the undermining of the morale of the German people to the point where their capacity for armed resistance is fatally weakened."

So for the first time in history, there developed an air war with a strategy and tactics all its own. Shortly thereafter, on April 6, 1945, General Carl Spaatz was able to announce: "The strategic war in Europe has been decisively won." Then the nation was able to turn its full attention to the war with Japan, and soon that enemy was to feel the full power of strategic bombing. The extraordinary damage inflicted on the Japanese homeland by strategic bombing, coupled with the atomic bomb drops on Hiroshima and Nagasaki, were ultimately responsible for the victory over Japan that came without a costly ground invasion. Thus, WWII drew to an end as the air campaigns in Europe and the Far East demonstrated once and for all the military potential of air power and the significance of strategic bombing.

1946 – 1986

Within a year after the cessation of hostilities a nation more wise in the ways of war directed the establishment of the Strategic Air Command. Designed to concentrate the global strategic bombardment force in a single command, the new organization was formed at Bolling AFB under the command of General George C. Kenney. Given the responsibility for developing a strategic atomic striking force that would serve to protect the peace through massive deterrent power, SAC had an awesome task to accomplish in the coming years. But under the leadership of commanders in chief from General Kenney to General Welch, and through the evolution of concepts and strategies, the command was molded into a highly trained and dedicated force that grew into the professional strategic fighting unit we know today. When formed in 1946, SAC's striking force was the combat proven B-29. In 1948, two new aircraft — the B-36 and B-50 — were delivered to SAC and inflight refueling was introduced giving SAC's bombers intercontinental range. It was also in that year that General LeMay took command and SAC Headquarters was relocated at Offutt AFB.

In early 1951 one of the most bizarre and tragic events in the command's history occurred. On 23 March, Brigadier General Paul T. Cullen, who had been selected to command the new 7th Air Division, and about 50 members of his staff departed for London, England. Unfortunately, they never arrived. They were lost enroute when their C-124 crashed somewhere in the Atlantic. Maj Gen Archie J. Old, Jr. assumed temporary command of the 7th Air Division and opened the new headquarters.

The four-engine B-17 proved to be a formidable strategic weapon in the skies over Europe during World War II.

During the Korean War, SAC B-29s dropped 167,000 tons of conventional bombs and destroyed every strategic industrial target in North Korea.

SAC's first intercontinental bomber, the huge B-36; was first delivered to SAC in 1948. The B-36 never dropped a bomb in combat.

A B-50 on the ramp at Castle AFB. In 1949, a B-50 became the first aircraft to fly nonstop around the world.

"Those who do not learn from history are doomed to repeat it." Santayana

During the Korean War, SAC B-29s made history in their first real test of combat readiness, dropping 167,000 tons of conventional bombs and destroying every strategic industrial target in North Korea in three months. In August 1953, the explosion of the first Soviet hydrogen bomb emphasized the nuclear threat and all phases of SAC training were pushed ahead at full speed.

New aircraft were swiftly introduced to replace older obsolete systems. By the mid-fifties, the first all jet B-47 bomber had replaced B-29s and B-50s. At that time, the KC-97 was the main refueling tanker. Before General LeMay's reassignment in 1957, SAC's inventory included the B-52, KC-135 and U-2.

By the end of the fifties, one-third of the bomber force was on 15 minute ground alert, and airborne alert and dispersal concepts were being tested to counteract decreasing warning times.

General Thomas S. Power, SAC's third commander, supervised the integration of intercontinental ballistic missiles into the force during his tour from 1957 to 1964. Atlas and Titan wings were activated in 1958 and Hound Dog and Minuteman soon became familiar terms in describing the mixed force of manned and unmanned systems.

When the Cuban missile crisis erupted in 1962 SAC was ready. With B-47s poised for immediate takeoff, B-52s flying airborne alert, and the growing missile force on alert, the command formed a strategic umbrella under which American diplomacy was able to resolve the tense situation.

In 1962, the last B-52H and B-58 rolled off the assembly line and for the first time since 1946, U.S. bomber production came to a halt. This was not to change until 1969 when the FB-111 entered the inventory and replaced its supersonic predecessor, the B-58. The B-58 had both finished production and was phased out of the inventory within the same decade. Also, during the sixties, we saw the RB-57, the B-47, the KC-97 and the Atlas ICBMs phased out and the SR-71 added to the inventory.

The six-jet B-47, SAC's first all jet bomber, replaced B-29s and B-50s. Note the tiny "vortex generators" above the outboard engine of the B-47 in the foreground. They serve to disrupt airflow over this portion of the wing which, in turn, increases the lift factor in the wingtip area beyond.

The venerable KC-97 was SAC's main refueling tanker during the fifties.

In 1957, SAC received its first KC-135 Stratotanker providing the command with a combination of jet bombers and tankers. With the KC-135, jet to jet refueling means bombers can take on a full load of fuel without slowing or changing course, or descending to altitudes at which they must burn more fuel.

Early B-52 formation. In 1962 the last B-52 rolled off the assembly line.

The highflying U-2 came into SAC's inventory during the latter part of the fifties.

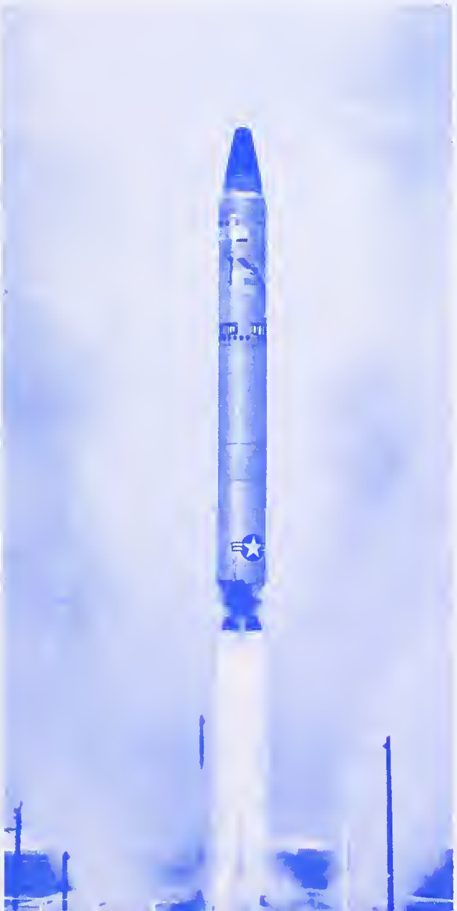
Records

Over the years, SAC crew members and aircraft have established many "firsts". In 1949, a B-50, named Lucky Lady II, became the first aircraft to fly nonstop around the world. The first nonstop trans-Pacific flight by a jet aircraft was accomplished in July 1952 by an RB-45 Tornado bomber. Operation Quick Kick in Nov 1956 was the first important demonstration of B-52 capabilities. Eight Stratofortresses flew a nonstop operational mission around North America and over the North Pole, remaining airborne as long as 32 hours and covering up to 17,000 miles. Operation Power Flite in Jan 1957 resulted in the fastest around-the-world flight on record. Three B-52s from the 93 BMW flew 24,325 miles nonstop in 45 hours, 19 minutes. Finally, world speed records were established by SAC B-58 and SR-71 crews. On October 16, 1963, a SAC B-58 set an international supersonic speed distance record with an 8,028 mile Tokyo to London flight in eight hours, 35 minutes. On Sept 1, 1974, an SR-71 flew a route between New York City and London covering the 3071 nautical miles in just under one hour and 56 minutes. This feat shattered the previous mark of four hours 46 minutes established by a British Royal Navy F-4K in 1969.

From 1964 through 1973, B-52s,

The first Atlas missile wings were activated in 1958 and then phased out during the sixties.

A Titan II during launch at Vandenberg AFB. The day of this venerable warhorse is gradually coming to an end.



A Minuteman test launch at Vandenberg AFB. This weapon system came into SAC's inventory during the early sixties.

KC-135s and reconnaissance aircraft flew thousands of bombing, air refueling and reconnaissance sorties in Southeast Asia. SAC forces were instrumental in lifting the seige of Khe Sanh, blunting the 1972 North Vietnamese spring offensive in An Loc, Kontum and Quang Tri, and finally forcing North Vietnam back to the peace tables through the December 1972 Linebacker II campaign. The KC-135 added a new dimension in air power by increasing flexibility and the battle time of fighters, decreasing response times and eliminating the need for bases near the battle zones.

As we entered the seventies, work was well underway on a new advanced strategic bomber, the B-1. However, the program was canceled, and the only new aircraft to be added to SAC's inventory during the seventies was the E-4, a modified Boeing 747. Four E-4s outfitted with special communications equipment served as the National Emergency Airborne Command Post.

Attention was also devoted toward increasing the capabilities of our B-52 and Minuteman fleet. Development of the SRAM missile and the EVS for G and H model B-52s and Minuteman II and III force modernization programs were just a few of the many improvements made to increase our strategic flexibility.

To better test SAC's readiness and capability in response to an attack on the U.S., through more realistic peacetime simulation of wartime environment, SAC conducted its largest and most comprehensive exercise in more than 20 years — Global Shield '79. This was the first comprehensive test of all SAC and associated Air Reserve Forces to carry out their assigned wartime missions.

In addition to demonstrating the readiness and effectiveness of SAC's nuclear deterrent forces, Global Shield, now an annual exercise, allows participating aircrews, missile crews and support people to gain valuable training in wartime tasks and to experience firsthand the link between their mutually supporting tasks. We left the seventies with essentially the same weapons systems with which we had entered, but we had vastly improved their capability to deal with the mounting nuclear threat.

In the eighties, SAC began a vital expansion of its weapon systems inventory. In late 1981, SAC took initial delivery of the air launched cruise missile, a small, unmanned, winged air vehicle capable of sustained subsonic flight, thereby greatly extending the effectiveness of the B-52. Cruise missiles

The short-lived B-58 Hustler both finished production and was phased out of the SAC inventory within the same decade.

On Sept 1, 1974, an SR-71 flew a route between New York City and London covering the 3071 nautical miles in just under one hour and 56 minutes.

In 1969 the FB-111 entered SAC's inventory and replaced its supersonic predecessor, the B-58.

A B-52 on a bombing run over Vietnam. The Linebacker II campaign in December 1972 helped force North Vietnam back to the peace tables.

The E-4 was the only new aircraft to be added to SAC's inventory during the seventies. Four E-4s outfitted with special communications equipment serve as the National Emergency Airborne Command Post.

An AGM-86 air launched cruise missile (ALCM) in flight. ALCMs are small, unmanned winged air vehicles capable of sustained subsonic flight, thereby greatly extending the effectiveness of the B-52.

A KC-10A tanker refuels a B-52G. In addition to refueling, the KC-10 can airlift more pallets of cargo than two "stretch" C-141s.

A TR-1 tactical reconnaissance aircraft, a variant of the U-2, on the runway at RAF Alconbury. This TR-1 had just completed a nonstop flight from Beale AFB.

The first B-1B was delivered to Dyess AFB in June 1985. With its powerful engine, low radar cross section, and tremendous payload, the B-1B preserves the penetrating bomber mission for years to come.

A Peacekeeper missile during a test launch from Vandenberg AFB. The Peacekeeper will play a pivotal role in sustaining the U.S. strategic nuclear deterrent posture.

first became operational at Griffiss AFB in December 1982.

To bolster the air refueling mission, which has grown steadily in importance across a wide variety of both strategic and tactical forces, SAC has complemented the venerable KC-135 tanker with the KC-10, which will primarily support tactical forces in contingency operations. In addition to refueling fighter aircraft and strategic airlifters, the KC-10 is a superb passenger aircraft and can also airlift more pallets of cargo than two "stretch" C-141s. The first KC-10 was delivered to SAC in 1981.

In an equally potent modernization initiative, the first re-engined KC-135's with the highly efficient turbofan CFM-56 are on the ramp at McConnell AFB. This remarkable innovation increases the KC-135's refueling capability by 50%, almost doubles its effective range, and greatly improves takeoff performance.

1981 was also a banner year for the reconnaissance force, with the addition of the TR-1, which significantly enhances the high altitude surveillance mission.

The dawn of a long awaited era in bomber modernization finally arrived with the delivery of the first B-1B to Dyess AFB in June 1985. With its powerful engine, low radar cross section, state of the art electronics and tremendous payload, the B-1B preserves the penetrating bomber mission for years to come. And, of course, the future of that mission is even more bright with the promise of the advanced technology bomber.

By a remarkable coincidence, the B-1B will reach IOC in the same year, 1986, as the Peacekeeper, which plays a pivotal role in sustaining this nation's strategic nuclear deterrent posture versus the Soviet Union. With the new small ICBM on the horizon, the present and future array of SAC forces is, as it must be, extremely imposing.

As Strategic Air Command enters its fifth decade of deterrence, Gen Larry D. Welch, commander in chief, SAC, has established several goals emphasizing his concern for personnel and the facilities in which they work. SAC people will be provided a living and working environment that promotes pride, professionalism and individual dignity. Further enhancement of the SAC mission will result through increasing the day-to-day readiness of our forces, and the quality of crew training. Innovation and initiative will help SAC's people do their work better and smarter. This initiative will be encouraged through decentralized authority and responsibility and through recognition of those who do it better.

In conclusion, SAC has a proven heritage, four decades of protecting freedom and deterring enemies from endangering that freedom, but we cannot rest on our laurels. Our anniversary theme says it all: **"Forty and Forward"** . . . to a brighter and more secure future.

SAC's Readiness is Our Peace Insurance Policy

General Curtis E. LeMay, USAF, (Ret)

General LeMay's words were obviously written in the years prior to the advent of ICBMs and female crew members in SAC. However, they capture in timeless prose the critical importance of our mission and the need for unrelenting professionalism. The means may change, but the end — strategic nuclear deterrence — is the constant commitment of every SAC combat crew member. Brig Gen Butler

Reprinted by permission from AIR FORCE Magazine, April 1956. Copyright ©1956, the Air Force Association.

For centuries it has been the job of the general to win wars. In the nuclear air age his job must be to prevent wars. There is good reason to believe that the military solution to the problem is relatively simple — superior long-range nuclear airpower and adequate defensive airpower **in being**, combat-ready on a continuing basis. This airpower must be strong enough to win, beyond the shadow of a doubt, the decision in any global nuclear war. Without this kind of force in being we cannot expect to keep the peace. This is perhaps the most significant military fact of today.

Therefore, all training, all operations, in the Strategic Air Command add up to one simple purpose — readiness for combat on an instant's warning, anywhere in the world. If we are not ready — in terms of trained men, modern equipment, and effective organization — then SAC is wasting its time.

Military power, in any form, has always been a matter of men, and for the foreseeable future it will continue to be. The day of the pilotless long-range bomber and the guided missile is coming. As they become available they will augment the manned force and, very slowly, may even replace it.

But in SAC we can take no comfort in the prospects, of being combat ready five years from now, or one year from now, or even tomorrow. Our prime interest is in readiness today, this instant. To do so we need men of the highest caliber, trained to the peak of perfection, armed with sufficient quantities of the best equipment the nation can supply them.

Among the almost 200,000 personnel of the command, motivations naturally vary greatly from person to person, yet there is one attribute that is common to almost all SAC people. This is the satisfaction they derive from knowing that the force they have helped to build and which they maintain in a state of constant readiness, is vital to the security of the Free World. They know that they are making a contribution toward the achievement of lasting peace. These people represent the finest in the military tradition — these who choose service to their country above all other considerations.

Building the Strategic Air Command to its present high state of readiness was, essentially, a matter of bringing the men and the aircraft together, and exercising them constantly on combat training missions, which duplicate actual war requirements. Realistic training is our greatest continuing need, and many hundreds of hours of study are required to master today's highly complicated air equipments.

Consider, for example, the fact that three men in a B-47 bomber do substantially the same jobs that eleven men did in the World War II B-29. Their training has to be broader and more technical, and the demands on each man are greater. Not only must everyone achieve high standards of proficiency in his own job — he is often cross-trained to the other jobs as well.

Ever since the Strategic Air Command was activated, it has been necessary to work on the assumption that a war might start at any time. It is a fact that hours — even minutes — might spell the difference between victory and defeat. Therefore, there has always been a certain urgency to our operations. It is essential to be ready to go — not next week, nor tomorrow, but today — now, if the need arises.

It is our responsibility to know how well the combat crewmen of SAC can do their jobs. In determining this we have had to **ask — and answer — three questions**. We would like to give you both questions and answers, for they bear on our conclusions.

First, can SAC combat crewmen, flying from bases here and overseas, find their targets with certainty? The answer is an unqualified yes. On celestial navigation alone, our crews can fly to within fifteen miles of any spot on earth, and from there move on their targets with precision by means of radar navigation.

Second, when they arrive over their targets, can they destroy them? Again, the answer is an unqualified yes. By means of carefully scored bombing runs, each of these crews has proved its ability on hundreds of occasions. I should like to point out that their targets are not cities — they are often specific corners of buildings within military target areas. By a combination of radar and radio, we can tell with what degree of accuracy any given crew is bombing.

Third, having destroyed their targets, will these crews get back? Again, the answer is yes. In World War II, using mass formations of bombers, subject to massed attack, our percentage of losses was less than two percent. With many hundreds of jet bombers utilizing optimum tactics, in small formations or on single-plane penetrations, the odds are equally in favor of our bombers.

Today, we have a combat-ready force in being — and I think there is good reason to hope it may never have to be used. The strength it poses to any potential enemy as of now is so great it is very probable that he will not risk its blows. There is no profit in aggression if it brings on self-destruction. Therefore, we may well regard the Strategic Air Command as peace insurance, and the premiums we must pay to keep it more modern than the strategic air force of any nation are not high. If we never have to use the power we have built into SAC, it will have justified its cost many times over.

We must face squarely the fact that the United States no longer enjoys a monopoly on long-range nuclear airpower. It was inevitable, of course, that the Communists would build this most potent type of force as quickly as they could. The fact they now have such a force, however, in no way detracts from the deterrent power of our own.

It is not likely that any major attack could be made on the United States without the aggressor nation suffering disaster. As long as a potential aggressor is convinced of this, I do not think we have to worry about a major war. Our main job is to keep him convinced.

We are not a belligerent people. We prefer to devote our inventive natures and our industrial capacity to providing better lives for ourselves and for others. In the past this inclination has been mistaken for weakness, and as a result, we have been drawn into two world wars in a single generation.

I would not say to you that SAC is the ultimate of military tools. Today, it is our best and most formidable military expression, and for the foreseeable future it appears clear that the long-range bomber and the nuclear bomb will be required in sufficient numbers, and of superior quality, as a national insurance policy. We must keep it that way, at the same time pushing forward our research and development programs on advanced type aircraft and guided missiles to guarantee future leadership in the air.

The airman knows the futility of war and his job today is to help prevent war from happening. We can and must insure our security by our continuing efforts toward a peaceful solution to world problems, backed up with the type of military strength our potential enemies fear most. In such an atmosphere, with that strength behind our position of moral leadership in the world, we can look to the future with confidence.

Flyers, planes, and skilled men to maintain the equipment — these are the main elements of SAC readiness.

"FORTY & FORWARD ..."

Gen Curtis E. LeMay
1948-57

Gen Curtis E. LeMay commanded SAC from October 19, 1948 — June 30, 1957. He built, from the remnants of WWII, an all-jet bomber force, manned and supported by professional airmen dedicated to the preservation of peace. Under his leadership and supervision, plans were laid for the development and integration of an intercontinental ballistic missile capability.

Gen LeMay's military career started in 1928 as a flying cadet. He served in various assignments in fighter operations before transferring to bombers in 1937. As commanding general of the 3d Bombardment Division, he led the famed Regensberg raid, a B-17 shuttle mission that originated in England, struck deep in Germany, and terminated in Africa.

Gen LeMay served as Chief of Staff of the United States Air Force from July 1961 until his retirement in 1965.

Congratulations on the 40th anniversary of the formation of Strategic Air Command. All of us can look back with **pride** at the tremendous accomplishments of our command.

One memory that stands out is the confidence placed in SAC during the cold war era of the 1950's. Every leader of the Free World expressed their belief that it was the strength and readiness of the Strategic Air Command that kept the world at peace.

Probably my proudest recollection though is SAC's valiant participation in Linebacker II during the conflict in Southeast Asia. This exercise emphasized the professionalism, dedication and power of our personnel when called upon to accomplish a very demanding task.

As I look to the future, it is my sincere hope that the same dedication and professionalism demonstrated then will be an example to the men and women our country has entrusted to maintain the peace now and into the future.★★★★

Curtis E. LeMay

General Curtis E. LeMay, USAF, (Ret)

"FORTY & FORWARD ..."

Gen Joseph J. Nazzaro
1967-68

Gen Joseph J. Nazzaro, who had over 13 years experience in SAC, served as Commander in Chief of SAC from February 1, 1967 – July 31, 1968. Gen Nazzaro's first assignment in SAC was in May 1946 – two months after the command was established — as chief, operations division.

Gen Nazzaro's military career began in 1932 at the U.S. Military Academy. During WWII, Gen Nazzaro commanded both the 381st Bombardment Group as well as the 316th Bombardment Wing.

He retired from the military service in 1971.

The story of the Strategic Air Command is well-known. Its mission to deter nuclear war and to contribute to the maintenance of peace is also well-known. The military strength of the command is derived from its weapon systems and from the dedicated and professional personnel in the combat echelons and the support forces.

In 1946 General LeMay and a handful of staff officers came to Andrews Air Force Base to be briefed on the elements that would be the beginning of the Strategic Air Command. These elements were remnants of the B-29 Bombardment units that were retained after the demobilization of the United States Army Air Corps following World War II. The contrast between the beginning of the Strategic Air Command and SAC in 1986 staggers the imagination.

The changes were effected primarily through the introduction of demanding training programs, the standardization of operational procedures and maintenance practices, the stabilization of personnel policies, and the competition engendered between units and indeed between crews. These, coupled with the introduction of more advanced weapon systems, ranging from the B-29 to the B-52 and the B-1 and from the Atlas missile to the modern Minuteman missile, brought about the formidable force known as the present day Strategic Air Command.

On the 40th anniversary of the Strategic Air Command I extend congratulations to all members of the Command. In particular on this occasion I salute the crew force both aircraft and missile — a force which exemplifies dedication, professionalism and self-discipline. It is this group that aptly demonstrated some of the varied capabilities of the Strategic Air Command during the Cuban crisis Airborne Alert operations in 1962 and during the Vietnam war daily conventional bombing operations.

The combat crews today have grave responsibilities — responsibilities that grow with the increased threat to the security of the United States — responsibilities which they accept.

I am sure the American public is thankful to them. ★★★★

Joseph J Nazzaro

General Joseph J. Nazzaro USAF, (Ret)

"FORTY & FORWARD ..."

Gen Bruce K. Holloway
1968-72

Gen Bruce K. Holloway served as Commander in Chief of SAC from August 1, 1968 - April 30, 1972.

A 1937 graduate of the U. S. Military Academy, Gen Holloway received his pilot wings the following year.

Shortly after the U. S. entered WWII, he went to Chunking, China, as a fighter pilot with the famed "Flying Tigers" of the American Volunteer Group. Remaining with that group after it became the Army Air Force's 23d Fighter Group, he became its commander before returning to the U. S. in 1944. During that tour in China, Gen Holloway earned status as a fighter ace, shooting down 13 Japanese planes.

Gen Holloway assumed command of the U. S. Air Forces in Europe in July 1965, serving in that capacity until his appointment as Vice Chief of Staff of the United States Air Force on August 1, 1966.

He retired from the U. S. Air Force on April 30, 1972.

In 1971 Mrs. Holloway and I were guests of honor at the annual convention of the Michigan Chiefs of Police in Boyne Mountain, Michigan. We took three young airmen with us: a B-52 crew member, a Minuteman missileer and a military policeman. These men were not chosen because of anything unusual they had done or any extraordinary skills they had acquired, but rather as representatives of what one would find anywhere in the Strategic Air Command within these respective specialties.

As expected, they made a tremendous hit with the Chiefs, and conducted themselves in a manner that made me swell with pride. After the wind-up banquet on Saturday night the Chairman of the Association said to me, "You cannot imagine what a shot in the arm these boys gave to our assemblage. We are, of course, constantly dealing with the other kind, and just to realize and have brought to our attention that United States Armed Forces are full of these fine and dedicated young people is an inspiration to us all."

In turn, this experience brought home to me how fortunate SAC had been through the years to enjoy such professional quality throughout the ranks. It has made our reputation as the finest of all military organizations, and it persists — through thick and thin budgetary years — as the principal ingredient for upholding this well-deserved public perception.

My greatest career privilege was to be CINCSAC, and the undiminished "can-doism" and professional pride of its people is the reason why. ★★★★

Bruce K. Holloway

General Bruce K. Holloway, USAF, (Ret)

"FORTY & FORWARD . . ."

Gen Russell E. Dougherty
1974-77

On August 1, 1974, Gen Russell E. Dougherty became the eighth Commander in Chief of SAC.

After serving in the FBI, Gen Dougherty entered active military service as an aviation cadet at the outbreak of WWII. He later flew both B-17s and B-29s.

While assigned to HQ 15AF as chief, operations division, he planned the B-52 round-the-world flight, Operation Power Flite, in 1957.

Gen Dougherty retired on August 1, 1977. He currently heads the Air Force Association.

In 1975 I wrote an article for **Combat Crew** titled: "Ours is an Honorable Profession." I wrote about the twin hallmarks of a military profession — integrity and responsibility — and noted that "nowhere are personal integrity and responsibility more important than in our combat crews." I wrote that eleven years ago, but it's just as true of SAC's combat crew force today as then — maybe more so!

Without taking away one bit from the "integrity and responsibility" of professional combat crew members, I think I should add "credibility"; though some will be quick to point out that "credibility" is a product of qualities, a reflection of other things and not a personal characteristic. True, but nevertheless, your credibility is what it's all about! When the chips are down and tensions high, it is your credibility that will serve to dampen violent intentions. You must convince any potential aggressor that you have the equipment, the training, the will — and the guts — to prevent him from achieving success through resort to military aggression.

The credibility of SAC's combat crew force is the *sine qua non* of our ability to deter and you are the heart of the crew force. In the event of a showdown, our nation cannot rely on deception, rhetoric or slight of hand — it is the credibility of our combat crews and their weapon systems that must bear the burden of deterrence.

But there is another equally demanding aspect of your commitment to credibility — possibly even more demanding: You must be credible to yourself! Do you believe you can do what may be demanded of you? Are you confident of your skills, your equipment, your training — your own guts? If you can say "yes" to these critical tests, the chances are that your enemy will also be convinced — he will not doubt your credibility and he will not challenge you.

I think you and your predecessors have succeeded in this dual test of credibility for almost forty years. You have shouldered the burdens of nuclear deterrence with distinction and success. I congratulate you for your absolute professionalism throughout the years. But . . . your mission is becoming more complicated, many of your weapons are older and the job is becoming much, much tougher. Your deterrent mission is expanding and becoming far more complex. The challenge to you and your leadership is growing exponentially. Fortunately, your preparation and your abilities have kept pace.

We in the "over the hill" gang see your vigor and your skills, envy them and take confidence. As new weapons are placed in your hands and as highly qualified and motivated new men and women come into the command, it is evident that you have all the ingredients to maintain credible deterrence, even in this more difficult environment. Your integrity and your responsibility will continue to be the hallmarks of SAC's professional crew force, and credibility will result . . . **for it must**; it's our nation's singular and best hope for the future. ★★★★

Russell Dougherty

General Russell E. Dougherty, USAF, (Ret)

"FORTY & FORWARD . . ."

Gen Richard H. Ellis
1977-81

Gen Richard H. Ellis served as SAC's Commander in Chief from August 1977 to August 1981.

Gen Ellis entered active military duty in September 1941 as an aviation cadet at Maxwell Field, AL. During WWII he served with the 3d Bombardment Group in Australia, New Guinea and the Philippines, and flew more than 200 combat missions in the Western Pacific area.

Gen Ellis retired in August 1981.

In human terms the passage of forty years marks the end of a long period of preparation and training and the beginning of the most productive period of an individual's life. Some of our business and industrial entrepreneurs of post World War II needed a similar period of preparation and expansion to develop the giant conglomerates of today. The Strategic Air Command, however, never enjoyed such a period of indoctrination, training and growth before assuming its primary mission; the national need for the Command's mature capabilities was immediate. From its earliest years SAC had to be recognized, by friends and adversaries, as a massive national asset for war — and consequently peace. It was and remains recognized as such a force to this day. How is such recognition achieved and maintained through periods of expansion and contraction, conversions to new technologies and equipment and changes in threat with never any lessening of national need? SAC achieved this recognition through the establishment of a young, vigorous and constantly changing crew force where five years as a member would be considered a career in other professions.

Building on the remnants of World War II combat veterans, SAC commanders, from squadron to CINC, instilled in the crew force the professionalism, discipline and pride that has been the hallmark of the Command for forty years. Each of the tens of thousands of crew members who served in the crew force over the years contributed to the lustre of those high standards just as today's crew force is making its contributions. The fact that SAC has never been bloodied in its primary mission is convincing evidence of their excellence in the maintenance of the Command as the key element of our nation's strategic deterrent forces.

Many of us hope that it will not be necessary for our nation to maintain indefinitely a strategic deterrent with the lethal capabilities and high level of combat readiness that the Strategic Air Command has possessed for four decades. Should the time arrive when the U.S. decides western freedom no longer requires those capabilities, then, certainly, the fact that such a deterrent force has been maintained for forty years and could be retained indefinitely will have been an important factor in such a judgment. ★★★★

General Richard H. Ellis, USAF, (Ret)

“FORTY & FORWARD …”

Gen. B.L. Davis
1981-1985

Gen Bennie L. Davis was Commander in Chief of SAC from August 1981 until August 1985.

After graduation from West Point in 1950, he entered the Air Force and attended pilot training at Vance AFB, earning his pilot wings in Aug 1951.

First assigned as a twin-engine pilot, the general completed B-29 combat crew training in October 1953. Gen Davis later flew B-47s and B-52s. As a B-57 tactical bomber pilot, Gen Davis flew more than 350 combat hours in 142 missions over Vietnam.

Gen Davis retired in August 1985.

Congratulations to all of the men and women of Strategic Air Command on your 40th Anniversary. To this unique command, which has been the preeminent guarantor of peace for the Free World, much is owed.

As a former SAC combat crew member (B-29, B-47, B-52) and a former commander, I have a deep appreciation for the personal and professional dedication of SAC's missile and air crew members and its support personnel. The sacrifices of you crew members and your families have underwritten our freedom over these past 40 years.

I wish I could say that the hard part of your job was over — that arms control had worked and nuclear weapons were all being phased out. Or that we had deployed a perfect defense against all offensive nuclear weapons. Such is not the case, nor is it likely to be the case any time soon. We will continue to stake our freedom on the professionalism and dedication of our SAC crew members. ★★★★

General B. L. Davis, USAF (Ret)

SAC's Flying Safety Program-1954

Today's flying safety programs — indeed ***all*** *of our safety initiatives — were born of a concern that goes back to the earliest days of SAC. General LeMay recognized that priceless lives and multimillion dollar assets simply could not be squandered through unsafe practices. This article and the one that follows point out how far we've come while providing a grim reminder of how quickly a momentary lapse in attention or discipline could (and still does) lead to disaster.* Brig Gen Butler

Accident prevention and flying safety programs are taking on an ever increasing importance in the Air Force with the advent of multimillion dollar bombers and fighters costing several hundred thousand dollars apiece. From major commands on down through individual bases, constant research, planning and programming are aimed toward the prevention of costly accidents. The Air Force can point with particular pride to the Strategic Air Command as an example of what a concerted effort to continually seek out better preventive methods and day to day emphasis can achieve in a safety program.

During the past four years, SAC's aggressive flying safety campaign has resulted in a steadily declining aircraft accident rate and an outstanding flight safety record despite a tremendous increase in the number of flying hours and increased responsibilities resulting from accelerated overseas deployment and rotation of units, steady increase of new personnel and equipment and the increased mechanical complexities of flying new type aircraft.

The lives of 159 crewmen — almost the equivalent of 53 B-47 combat crews — have been saved in 1950, 1951, 1952 and 1953 as a direct result of the Strategic Air Command's aggressive flying safety program.

Pictured are three of the trophies presented to SAC's safest bases. In addition to a monthly trophy, a special trophy was awarded to the safest base of the year.

For the past four years, SAC has been conducting an all-out program for preventing aircraft accidents. The results of any activity must be measured by the results achieved. Based on that criteria, SAC's flying safety program is a highly successful one.

While the saving of human lives is most significant, there were other important achievements recorded during the past four years. The savings were computed by comparing 1950 with 1949, 1951 with 1950, 1952 with 1951 and 1953 with 1952.

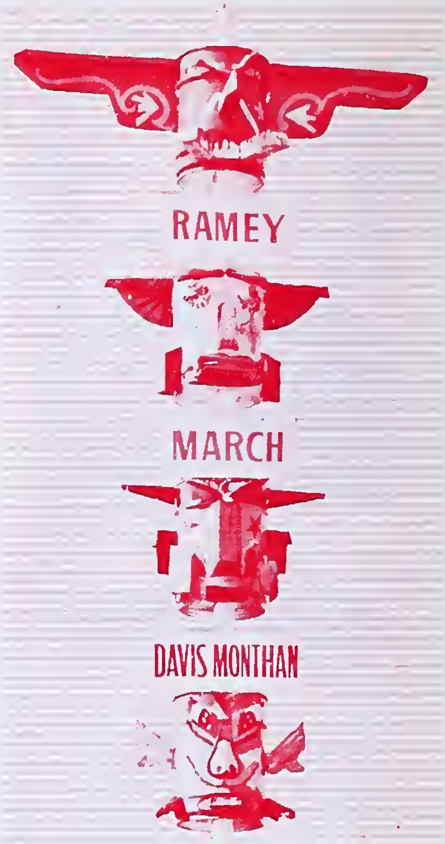
SAC's emphasis on safety in flight averted an estimated 216 accidents during this period, preventing the complete destruction of 49 aircraft.

Of concern to the taxpayer, both military and civilian, are the monetary savings effected. Conservatively computed, these savings total more than 55 million dollars. Not figured in this total are the costs of minor accidents and personal injuries that have been averted.

Every dollar spent in promoting the command's flying safety program in a single year — 1952 — returned $49 in savings.

The year 1953 was the safest in the Strategic Air Command's history. The command's major and minor aircraft accident rate for the year dropped to an all-time low — 18 accidents per 100,000 hours of flying. This rate marks a 40 percent reduction over the 1951 rate of 30 and is 67 percent lower than the rate of 54 established in 1949 — the year prior to SAC's increased emphasis on flying safety.

The accelerated program began in 1950 when Gen Curtis E. LeMay, the SAC commander, provided flying safety with a new basis. Where the job of flying safety officer had been part time and subordinate to "more important" duties, each wing was given a full time flying safety officer responsible to the wing commander. Each base commander and wing commander was made personally accountable to the commanding general for the safety of his operation.



Ramey AFB, Puerto Rico, is now closed. However, when this article was printed, Ramey boasted the longest accident-free record of any SAC base along with the command's most original totem pole, constructed of condemned 50-gallon steel drums.

So seriously does Gen LeMay view a major accident and its crippling effect on SAC's combat capability that he requires the commander of the wing involved to report to him in person. This provides the SAC commander with a detailed first-hand account of every accident, its causes, where the responsibility lies and the corrective action being taken, and indelibly impresses upon the wing commander the vital importance attached to saving air crews, planes and tax dollars.

SAC's Flying Safety Division

evolved a two-phase attack on the problem: The defensive phase requiring investigation of aircraft accidents to determine causes and trends which indicate action necessary to prevent future accidents; the offensive phase consisting of all-out campaigns to sell safety consciousness to everyone in the command. Almost everywhere a SAC combat crewman pauses at a SAC base these days — the NCO or officers club, PX, operations, the briefing room or flight line — he is reminded by posters, bulletin boards, signs, newspaper stories and SAC's own flying safety magazine, *Combat Crew*, to "Fly safely."

Focal point of the "Safe Aircraft Campaign for '54," launched last January 1 by Gen LeMay, is a handsome trophy awarded each month to SAC's safest base. At the end of the flying safety year, a special trophy will be awarded to the safest base of the year.

Monthly, each bomber base nominates an outstanding crew, and each fighter base an outstanding pilot, from which SAC's Flying Safety Division selects a commandwide crew and pilot of the month for special recognition and honors. Because of the importance of quality maintenance to safety of flight, a maintenance man of the month is also given commandwide recognition. To focus attention on the campaign each SAC base has erected an Indian-style totem pole on which the five safest bases are listed each month. A sign at the base of the pole reads — "Get to the top by flying safely."

An honorary Heads Up Flying Club, organized by the Flying Safety Division, gives recognition and membership to pilots and other crewmen who prevent an aircraft accident by their superior handling of an emergency in flight. Members of this exclusive club are awarded a miniature airplane of the type they "saved" in recognition of their contribution to flying safety.

Designed to save lives, aircraft, equipment and tax dollars, the Strategic Air Command's accelerated aircraft accident prevention program has more than paid for itself many times over.

No one person is responsible for this remarkable savings of lives, materiel and dollars. The results are the aggregate of many factors; the intense personal interest and backing of Gen LeMay; formulation and direction of the program by Maj Gen Archie J. Old, Jr, director of operations, and his Flying Safety chief, Col C. J. Cochrane, and the execution of the program by the wing commanders, SAC's 99 flying safety officers here and abroad, and, finally, the combat crews who fly SAC's bombers and the maintenance men who keep them flying safely.

For two successive years — 1951 and 1952 — SAC was awarded the Daedalian Trophy, the Air Force's most coveted flying safety award, in recognition of its outstanding safety record.

"But," Gen LeMay has pointed out, "SAC's flying safety program cannot rest on its laurels. We cannot be satisfied with anything less than complete elimination of avoidable accidents caused by poor judgment, carelessness or lack of proficiency. Our program is designed to never let pilots and combat crews forget the importance of safety in flight. By doing this on a continuing basis we hope to so firmly instill the principles of safe flying that they will become habitual and permanent."

Former SAC Commander Gen Curtis E. LeMay, congratulates Maj Gen John B. Montgomery then 8AF commander (center) and Brig Gen John D. Ryan, then 19th AD commander, following presentation of the SAC Safe Aircraft Campaign for 1954 Trophy during a parade review ceremony held at Carswell AFB.

A RECORD LOW

A record low accident rate was chalked up by the Strategic Air Command during the month of July. Only eleven accidents occurred during that period — seven major and four minor.

The July record is particularly gratifying since it precedes the command's most aggressive program yet for preventing accidents — the Flying Safety Year campaign which began September 1. Not only does it represent an ideal precedent for the year-long campaign but it also establishes a new mark for Strategic Air Command flight and maintenance personnel to shoot at and even surpass during the coming months.

But, above all, the July record is pleasing proof of what can be accomplished when flight, supervisory and maintenance personnel jointly direct their efforts toward safety. If combat crewmen fully recognize July's achievement and accept it as a challenge, it is logical to expect similar results in the future.

Particularly, this all-time low accident rate is indicative of the progress in safety being made by combat crews. Only two of the accidents in July involved multi-engine tactical aircraft. On the darker side, the rate spotlights a current weakness in some flying safety programs — the base flight section. Of the 11 accidents, six occurred in administrative and trainer type aircraft. Poor technique and pilot error were the major factors in five of those six.

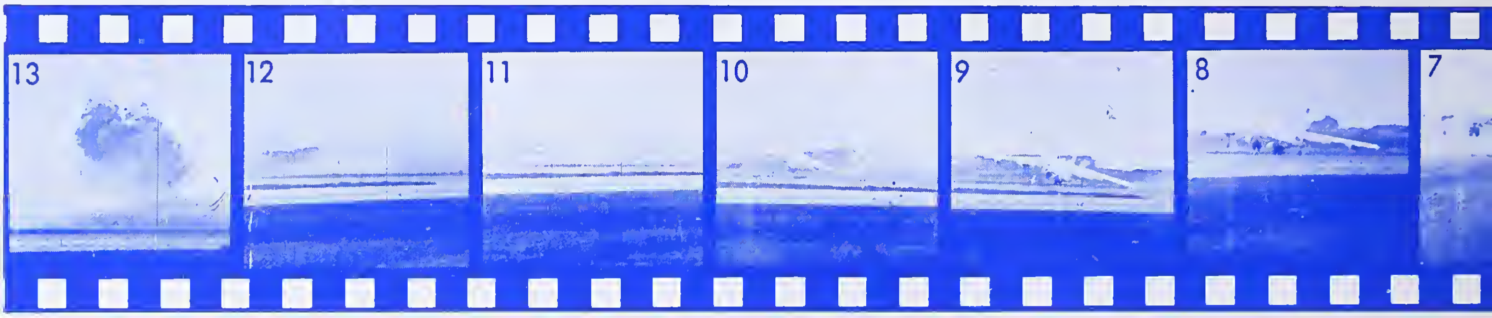
The month of July represents a commendable milestone in SAC's accident prevention program. Now, the job is to push the rate down even further and not permit a relapse to former standards. -SEPTEMBER 1951

We've Come a Long Way ...

... Or Have We?

This mishap report originally printed in January 1957 indicates there are some lessons we've yet to learn.—Ed.

TOUCH AND GONE



In the late summer of last year, a B-47 in the traffic pattern at Lakenheath was calmly going about its business of touch and go landings. It was one of those pleasant English summer days, with good ceiling and visibility, and a mild wind stirring the 75° day.

A 7th Air Division photographer stood in the center of the field, also calmly going about his business which was taking 16mm movies of the aircraft landings . . . nothing special, just a routine assignment. He had taken thousands of feet of just such film. He watched the plane on the downward leg turn onto base and then on the final approach. This was the fourth landing of this particular '47. He dropped his cigarette, ground it out with his heel, and glanced at his watch as he brought the camera up to his eye. It was 1438. He pressed the button.

No one expected to die, but within one minute four men were destined to.

The approach over the fence looked normal — like all the rest. As the pilot began to flare out, the nose gear touched slightly before the aft main — not much; it didn't look bad. As the aft gear followed on the runway, however, the nose gear came off and a slight porpoise started. At this position the aircraft is directly opposite the photographer, and he stops shooting momentarily to change his position. As he gets back on the aircraft, it has passed the famous Lakenheath hump and contacts the runway again, slightly left wing down. From this point a nose-high tendency starts and the right wing begins to drop. Both right-wing-low and nose-high attitude continue to steepen until the right wingtip strikes the ground. Witnesses state that considerable power was now being applied.

The right wing and No. 6 engine dragging pull the aircraft off the runway into a curving turn to the right. The dragging wing and engine and blast of jets into the dirt kick up a terrific cloud of dust; but through it the photographer can dimly see the left wing and part of the fuselage. He realizes this crew is in a jam, that the best thing he can do now is to keep grinding. The camera whirs steadily amid the sound of the screaming jet engines.

The struggling Stratojet can hardly be seen now in its own dust cloud; the nose is extremely high and the tip of the left wing is just visible, then it's gone — out of sight in its own tornado of swirling dirt and turf. He grinds on anyway into the cloud of dirt. The screaming engines keep clawing to pull the bird back to the heavens where she belongs, but the struggle is just too great. A violent explosion, then a great pillar of smoke and flame erupts from out of the dust to mark the impact point — about 1000 feet beyond the perimeter taxiway on the side of Lakenheath's "Tower Hill."

The cameraman's finger eased off the button he had been holding so tightly that it hurt. He looked at the pillar of smoke. What could he do? Crash trucks were already racing toward the fire. He stood reflecting on what he had just seen. Why did this happen? What had gone wrong? Then he held the camera up and looked at it. Why, indeed, maybe he had the answer right there on that film! He bent over and carefully but quickly stowed the camera in its case, grabbed it up and lit out for the flight line, half a mile away.

The story told by this strip of film has been rerun many times to analyze the mistakes, so every B-47 and B-52 crew can profit from the lessons to be learned. Let's take a look at the analysis.

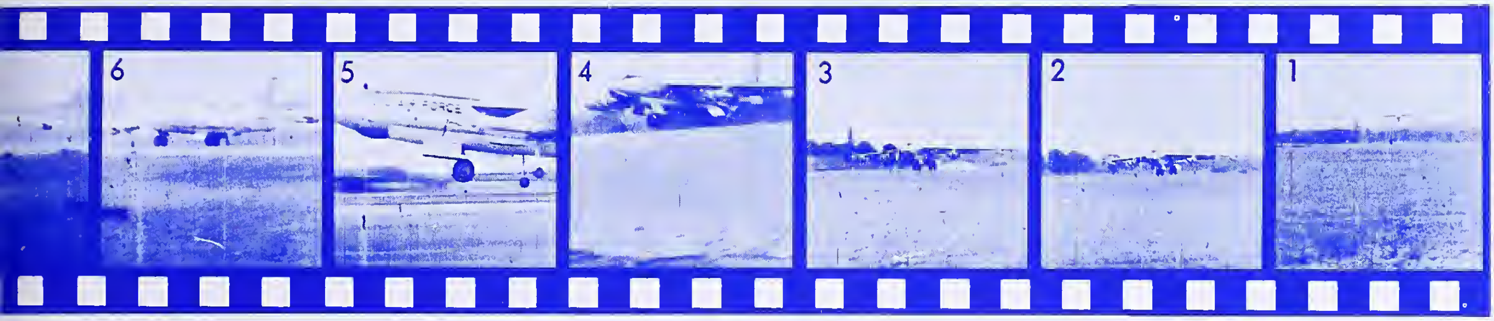
At position one, the approach looks normal in every respect. A reconstruction of his mission later indicates the gross weight would have been right at 100,000 pounds.

Looking at the second photo, as the aircraft is flaring for the landing, it appears the nose gear is about to touch first.

In the third picture, the nose gear has already touched and the aft truck is rotating down.

At position four, a slight porpoise has started as the nose rotates high and both gears leave the runway.

"Safety — make it a state of mind and a way of life." Brig Gen Lee Butler, Combat Crew, October 1984



In the fifth photo, the airplane is quite high and it appears the pilot's problem is compounding. At this point there is a four-second lapse in the film, so the aircraft's attitude cannot be followed. Witnesses state, however, that the forward trucks struck the runway again just short of the crest of the nine-foot rise. According to these witnesses, this aggravated the porpoising action; however, this cannot be detected in the film analysis due to the short lapse.

In photograph number six, it appears the aircraft is in fair shape with both main gears apparently on the ground and a slight left-wing-down attitude. This point, however, is over 5000 feet down the 9000-foot runway and evidently the pilot thought a go-around was the only solution to his problem. Between this photo and the next, witnesses state that "full" power was applied.

At position number seven, the action is just starting that led to the ultimate crash. The nose is starting up and the right wing is going down. Two factors are evident here: one, that up-elevator and the porpoise action are raising the nose and that in all probability an uneven thrust condition is pulling the right wing down. The asymmetric power condition could easily be associated with compressor stall on one or more of the starboard engines, for it is known that power was rising rapidly at this time.

Progressing to position number eight, the nose-high, right-wing-down condition is worsening. Power is continuous now, in an attempt to fly.

In the ninth photo, the wingtip is dragging and the No. 6 engine is about to touch. Note the extreme nose-high angle now. Even with full power on all six engines, the induced drag of this attitude puts the aircraft so far on the back side of the power curve as to be impossible of flight without lowering the nose.

At position number ten, the dragging wing and engine are pulling the aircraft off the runway to the right. The main gear are now off the ground completely.

In the eleventh photograph, the skidding turn is further aggravated by the wing drag, and possibly by a stalled engine on the right.

Number twelve: the left wingtip and No. 1 engine are barely visible through the dirt.

Number thirteen: the impact point.

The "hump" in the Lakenheath runway has been an item of safety briefings at that station for some time. It could have added considerable aggravation to the porpoise started early in this sequence. **The primary cause of this unfortunate accident, harsh as it may be, must be credited to operator error in failing to apply timely corrective action to maintain control of the aircraft.**

THE "TOUCH AND GO" PROCEDURES WENT GREAT... UP TO THE TOUCH POINT !!

PROFESSIONAL PERFORMERS

Aircraft Maintenance

SSgt Thomas C. Stretch, 410 BMW, K. I. Sawyer AFB, is SAC's Maintenance Airman of the Month. Though relatively new to K. I. Sawyer, Sgt Stretch quickly established exceptional credentials as a crew chief. His mastery of aircraft maintenance, his maturity, and his innate ability to handle difficult situations make him a highly productive member. Sgt Stretch was the unanimous selection as the wing's crew chief representative in the 1985 SAC Combat Weapons Loading Competition. When the final points were tallied, he was named the number one crew chief in 8AF and number two in all of SAC. Immediately after this competition, he attended NCO Leadership School and earned the John L. Levitow Honor Graduate Award, the highest honor given any NCOIC graduate. Never satisfied with the status quo, Sgt Stretch is always looking for ways to improve the wing maintenance effort. He has had five AFTO Forms 22 approved for technical order changes, and he has two suggestions pending further consideration at HQ SAC. In the area of self-improvement, he completed his seven level career development course in minimum time and achieved an outstanding end of examination score of 96 percent.

Missile Maintenance

SSgt Frank L. Banks, 44th SMW, Ellsworth AFB is SAC's Missile Maintenance Airman of the Month. Assigned to the team training branch, Sgt Bank's contributions have set a new pace for improved quality of Minuteman maintenance and training in the area of combat targeting. To reduce instructor workload while increasing student comprehension, he restructured an initial training course into an innovative "block format," enabling the use of more tests, performance checks, and programmed learning texts. He then proceeded to develop these program texts, training aids, and a "distinguished graduate" program which dramatically improved student discipline and morale by providing clear, concise standards and increased recognition for outstanding effort.

Sgt Banks was identified as a "Professional Performer" by the 3901st SMES. His error-free lesson plan format stressed Instructional System Development principles and demonstration/performance methods which directly impacted his branch's "Excellent" rating. He was also singled out in the 1985 SAC IG report as "a leader in producing the best lesson plans seen to date."

SSgt Thomas C. Stretch

SSgt Frank L. Banks

Sgt Jeffrey C. Olson

Flying Crew

Recently, Maj Stormy Boudreaux and Maj Ted Ross of the 1st SRS, Beale AFB, were flying a classified operational mission in an SR-71 aircraft. Following air refueling, they made their climb, leveling off over 80,000 feet and at speeds greater than Mach 3. Shortly after level off, the crew experienced a triple computer failure which resulted in loss of their stability augmentation system and their engine inlet system. The aircraft pitched up violently, almost reaching an uncontrollable attitude. Maj Boudreaux's exceptional flying ability and quick reflexes, combined with Maj Ross' cool professionalism, quickly put the aircraft back into a safe flying regime. They descended back to subsonic flight and returned to their departure base. Maj Boudreaux's and Maj Ross' exceptional flying skills — while encumbered by a bulky full-pressure suit, at speeds and altitudes unknown to other jet aircraft — undoubtedly averted the loss of a valuable national resource. This crew's judgment, coordination and outstanding professionalism in handling this emergency are a tribute to the United States Air Force and the Strategic Air Command.

Missile Crew

Crew R-072, consisting of 1Lt Michael C. Dascalos, MCCC, and 2Lt Michael D. Braunberger, DMCCC, 321 SMW, Grand Forks AFB, is SAC's Missile Crew of the Month.

Crew R-072 recently demonstrated their exceptional leadership capabilities when they managed several unique and potentially hazardous problems with poise and precision. Faced with numerous power changes at their LFs and their LCF, they requested and obtained permission to isolate LCF commercial power to prevent damage from the fluctuating overheat condition in their site power distribution panel topside.

During an unexpected snow storm consisting of 8-12 inches of snow, high winds and three to four foot drifts, Crew R-072 was informed that contact had been lost with a category 1 convoy traveling through their flight area. Promptly declaring a security situation and performing their contingency checklist ensured the safe arrival of the critical resource to the LCF. During the 48-hour alert and the storm, Crew R-072 also assisted a missile maintenance team that was stranded on an LF. The crew directed the team to the LF equipment building for protection and to maintain communication security.

Munitions Maintenance

Sgt Jeffrey C. Olson, 319 BMW, Grand Forks AFB, is SAC's Munitions Airman of the Month. Sgt Olson provides the air launched missile maintenance branch (ALMM) with outstanding professionalism, dedication, technical skills and leadership. A conscientious attitude and intelligent application of systems knowledge allow Sgt Olson to complete any task with outstanding results. He has never failed a technical, supervisory or trainer evaluator evaluation. Certified as a team chief in a fraction of the normal time, he performed nine error free maintenance operations for the wing special weapons quality assurance inspector. During a recent SAC IG inspection, he performed two difficult and demanding tasks. Both the AGM-69 short range attack missile (SRAM) mate to a rotary launcher and the W69 payload mate to a SRAM booster were accomplished without discrepancy. Sgt Olson's flawless performance significantly contributed to the overall "Excellent" rating earned by the ALMM branch. He also supervised an AGM-86 ALCM mate to a pylon and another W69 payload mate for the SAC MSET. Again, both were completed in a faultless manner. His ability to consistently perform to such high standards was a vital part of the branch's maintenance effort that received an "Excellent" rating for technical operations and a comment of "best ALCM stockpile to date" from the team evaluators.

THE FUTURE OF SAC

Lt Col Clarence O. Herrington, HQ SAC/XPI

"Safety in flying does not just happen; it is achieved by the untiring and unceasing efforts of everyone concerned with the maintenance and operation of aircraft." — Gen Curtis E. LeMay, Combat Crew, December 1956

Now that you've had a chance to look at the past 40 years of SAC history, how would you like the task of forecasting the future for SAC? This would be like squinting into a crystal ball to see what's there. That's what this article is about. Its purpose is to link the past to the future and look where SAC is going.

Looking at the environment of the future, obviously some things will be different around the turn of the century. Forecasts include an average life span of 100 years for newborns, computers as a primary source of education, and more women in the structure of the work place. In the defense environment things come to mind such as new types of body armor, robotics and weapons systems that automatically adjust for combat damage.

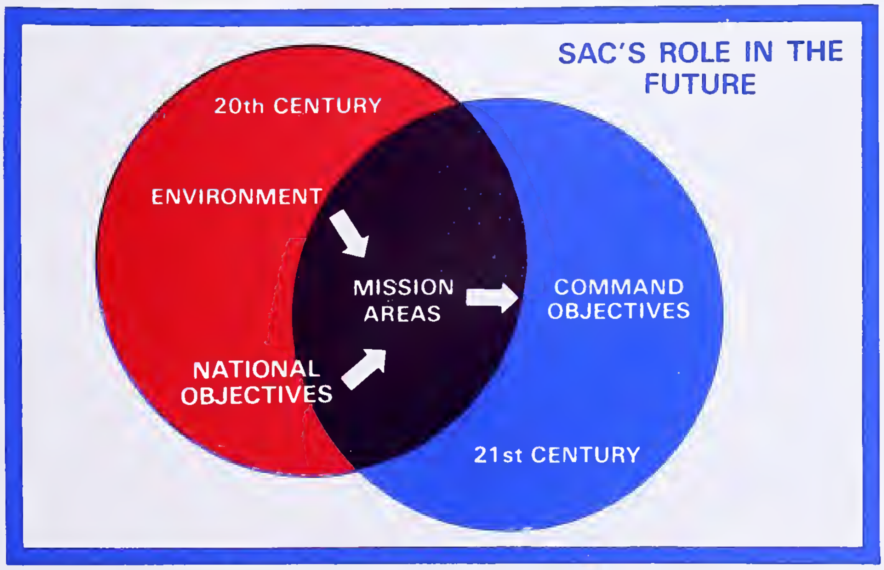
Other areas such as the political or domestic environment are surrounded by uncertainty. In order not to just assume away these uncertainties, the Air Force established a group to postulate alternative futures. The following assumptions were drawn using this study: the U.S. and USSR will continue as equally predominant, conflicting world powers but will not succumb to general war; worldwide disarmament, although much discussed, will continue as an illusive goal; economic conditions will fluctuate, but no major economies will collapse; no ideological revolution will unite the majority of the world's people. An obvious conclusion from these assumptions is the continuing need by the U.S. for a strong national defense.

Among the future threats posed to our national interests are Soviet expanionism, regional tensions, nuclear proliferation, and terrorism. We expect that the Soviets will continue to try to dominate the world primarily through military power, but also through support of terrorism and international negotiations. Socio-economic problems from starvation to conflicts over critical minerals and energy supplies, religious differences, and nation-state racial tensions will continue as divisive issues. More countries will seek the capability to possess nuclear weapons, and they will have different perceptions and perspectives on their use. The current increase in international terrorist incidents with multiple fatalities indicates a trend which will be heightened by more lethal emerging technologies.

Against this backdrop, it can be postulated that the essence of the SAC mission — maintaining credible deterrence — will be as valid in the future as it is today; but more diverse and expansive mission demands will require smarter, more efficient use of SAC assets for future multiple roles. Flexible forces that can be projected into any level of conflict on a global basis are key to the future. Emphasis will increase in areas such as conventional support of NATO, Korea, etc., maritime support missions against both surface and sub-surface threats, and non-nuclear capability, among others. More joint activity can be expected.

From these mission areas, other objectives are derived. These include continual enhancements of the strategic TRIAD, C^3I, logistics support, and aerospace capabilities, more emphasis on intercommand relationships and people concerns (e.g. quality of life), and innovation in the overall planning arena. SAC's two legs of the TRIAD, land-based missiles and aircraft, will remain viable and necessary to the nation's security. If fielded, strategic defense and space-based assets will enhance the deterrent value of, but will not replace any single leg of the TRIAD. Strategic offense and strategic defense in concert may provide a synergistic effect similar to that of the TRIAD. Of course, strategic modernization will continue to be essential for readiness, survivability, and flexibility.

Aircraft will continue to play an important role. The B-1B will be a critical portion of the SAC bomber force as we enter the twenty-first century. The Advanced Technology Bomber (ATB) will incorporate the latest technology to reduce observable characteristics and enhance penetration capability. Advances in stand-off weaponry, both long and short range, will enhance



platform survivability and further stress enemy defenses.

Because of their important characteristics of high alert rate, high confidence C^2, low manpower, low day-to-day costs, etc., the missile leg will continue to maintain the capability to respond over a wide range of employment options. The PEACEKEEPER will have the ability to promptly and accurately strike hardened targets over long ranges. Once deployed, the Small ICBM with an accuracy comparable to PEACEKEEPER will add greater flexibility and vitality to the missile leg.

Near the turn of the century, "real-time" will be more of a reality for C^3I. Concepts like real/near real-time intelligence fusion and target change/redirection will become more practical with breakthroughs in laser communications, optical computers, artificial intelligence, biology, and similar fields. Logistics support will achieve more mobility, flexibility, and survivability. This will be accomplished by focusing on supportability during design/acquisition, energy self-sufficiency, and an international logistics support base, along with changing operational concepts (i.e., more "remove and replace" at the operational level with larger repair functions at depot). With hardware and software improvements, SAC assets will be used more effectively.

In a larger sense, the keys to the future are people and innovation. People have the ideas and do the job. This will be just as true in the future. If fact, SAC expects no diminution in the quality of personnel, and better results will be achieved with proper emphasis on people, their education and training. Innovations cover a realm of possibilities such as simple robotics, air-cushioned vehicles, in-flight battle damage response systems, directed energy systems, and hypersonic aircraft. They also include the day-to-day creativity of dedicated people in a thousand smaller ways.

Keeping people and innovation at the forefront requires nothing new. A return to basics achieves this. Proper emphasis on leadership and management will ensure doing what is right for SAC people. By giving people the responsibility to do the job, along with commensurate authority and resources, mission objectives will be achieved. Innovation can flourish by setting the right atmosphere.

SAC programs today emphasize some of these thoughts. Perhaps you've heard of the Model Installation Program (MIP). SAC Headquarters and two SAC bases, Whiteman and Fairchild, use MIP to implement change with very little delay — usually less than 72 hours. MIP proposals are implemented much more quickly since they must be accepted unless they are illegal, immoral, or obviously detrimental. Successes with this program include the elimination of some outdated additional duties and unnecessary administrative tasks. Other MIP successes have resulted in direct monetary savings, the amount of which is turned back to the saving unit to use for additional improvements. Another program under **R&M 2000** promotes greater awareness of SAC's renewed commitment to increasing combat capability and supportability through accelerated improvements in reliability and maintainability. Due to improved R&M, intermediate maintenance on some systems will be performed more efficiently/effectively at centralized repair facilities rather than at each operating base which would generate significant manpower savings. More emphasis on productivity in all aspects of our mission is becoming more evident throughout SAC as we attempt to do the very best with the resources that are available.

Something brand new and definitely future-oriented is called CRYSTAL SHIELD 86. It flows directly from one of CINCSAC's principal goals, to "encourage innovation and initiative in finding ways to do our work better and smarter." Patterned after the Air Force Innovation Task Force, but tailored to SAC needs, CRYSTAL SHIELD's charter is to generate a small number of attainable challenges for the Command, find ways to work them, and foster a climate to sustain innovation. People from units across the Command and with a broad spectrum of backgrounds and experience are participating. Their panel discussions covering mission, personnel, support, technology, etc., when consolidated, will result in practical ideas to move the Command smoothly into the twenty-first century.

Moving smoothly into the next century can be achieved by first considering the past and present, appreciating what is right and useful from them. By reviewing the anticipated environment for the future in prudent, realistic terms, identifying mission areas in which SAC might have a role, objectives can be formed to meet the needs of the future. By emphasizing leadership, innovation and productivity, the future will **not** be determined by inaction. Rather SAC's future and the future of the nation's security will be bright, and each of us will play a key role in determining that future.

ABOUT THE AUTHOR

After flying C-7 and B-52 missions in Southeast Asia, Lt Col Herrington served as a stan/eval pilot as well as a member of 1CEVG. He was on the faculty at ACSC prior to becoming a long range planner in plans and policy at HQ SAC.

"A good safety record is a direct reflection of individual and unit professionalism." Gen Larry D. Welch

SAC SAFETY SCREEN

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW AFR 127-2/SS1.*

44 SMW, Ellsworth Crew S-080: MCCC 1Lt Donald Denning, DMCCC 2Lt Steven Mallard

91 SMW, Minot Crew R-033: MCCC 1Lt Frederick Fisher, DMCCC 2Lt Michael Karschner

308 SMW, Little Rock Crew S-243: MCCC 1Lt Gerald E McNair, DMCCC 2Lt Wesley C Thomas, MSAT Sgt Gale M Willhite, MFT Sgt David B Parsons

38 SRS, Offutt Crew R-09: IP Maj Barry Olshaw, CP Capt Jeff Robertson, N1 Capt Keith Stachowski, N2 1Lt Charles Cooper

343 SRS, Offutt Crew S-31: R1 1Lt Jim Blaich, IR-2 Capt Rick Siebert, IR-3 Capt Mike Illerbrun

43 AREFS, Fairchild Crew R-112: P Capt Michael D Swigert, CP Capt Kevin J Brox, N Capt James W Litzinger, BO Sgt John M White Jr

43 AREFS, Fairchild Crew R-131: P Capt Roger E A Engelbertson, CP 1Lt Mark A Gregg, N 1Lt Thomas F Yates, BO SrA Mark A Schumann

46 BMS, Grand Forks Crew S-29: P Capt William R Craig, CP Capt Mark A Herzfeld, RN Capt Richard W Newman, N 1Lt David B Harris, EW 1Lt Mark S Nelson, G TSgt Donald D Miller

905 AREFS, Grand Forks Crew R-125: P Capt Gary M Ullrich, CP 2Lt Keith B Kontz, N 2Lt Michael A Auclaire, BO SSgt Barry G Hayes

170 AREFG, New Jersey ANG, McGuire AFB: P Maj Wallace F Pickard, CP 1Lt Paul F Nestel, N Maj Ulker C Birson, BO MSgt William E Kriews

42 AREFS, Loring Crew E-133: IP Capt Lawrence J Owens, CP 1Lt Michael L Danley, IN 1Lt Bradley J Chiasson, BO Sgt Kenneth J Wader

69 BMS, Loring Crew S-30: IP Capt Mark K Simmons, CP Capt Thomas L Claypool, IRN Capt Jeffrey L LeVault, IN Capt Thomas A Powell, EW 1Lt Ronald R Ricci, G SSgt Leonard J Lombardi

407 AREFS, Loring Crew E-164: IP Capt Steven E Lawrence, CP 1Lt Daniel C Favorite, NN 1Lt Gregory T Jones, BO A1C Michael H Vivian

11 AREFS, Altus Crew E-110: IP Maj Michael H McQuinn, CP 1Lt Jon F Kidder, N 1Lt Jeffrey E Frye, BO SSgt James P Davis

306 AREFS, Altus Crew S-102: IP Capt John T LeBlanc, CP 1Lt Felix R Bulls, IN Capt Martin D Bannon, IBO TSgt Michael E Bauer

307 AREFS, K I Sawyer Crew E-172: P Capt John Diggs, CP 1Lt Mark Pryor, N 1Lt Tom Ingold, IBO SSgt Dave Vickers

644 BMS, K I Sawyer Crew E-25: P Capt Glenn F Spears, CP Capt Rob L Frazier, RN Capt James V Boquin, N 1Lt James A Williams, EW 1Lt John H Rose, G SSgt Alan A Anielski

46 AREFS, K I Sawyer Crew R-122: AC Capt Ben Muetzel, CP 1Lt George Cespedes, N 1Lt Jules Hoehn, BO SrA T J Shima

128 AREFG, Gen Mitchell Fld, Milwaukee, WI: P Capt Gary R Johnson, CP 1Lt Gene A Feller, N Maj Gary W Gloede, BO SSgt Thomas J Sroka

FLARE

UNIVERSITY OF FLORIDA
3 1262 09683 5888

STRATEGIC AIR COMMAND